

**APEC EXPERT GROUP ON
ENERGY EFFICIENCY AND CONSERVATION, MEETING 17
Taipei, Chinese Taipei, 19th to 21st October 2000**

The Seventeenth meeting of the Expert Group on Energy Efficiency and Conservation (EGEEC 17) was held in Taipei City, Chinese Taipei, hosted by the Industrial Technology Research Institute, from 19th to 21st of October 2000. Sixteen representatives from nine member economies plus an observer from the Asia Pacific Energy Research Centre (APEREC) attended the meeting.

Thursday 19th October

Introduction and Review of the EGEEC 17 Meeting Agenda

The chair of the expert group, Mr Frank Pool of New Zealand, was unable to attend. In his absence, the representative from New Zealand, Eur Ing David Cogan, formally chaired the meeting, with the deputy chairs taking over the duties of the chair for some sessions.

The chair welcomed the delegates to the meeting, and the delegates introduced themselves. The expert group then approved the meeting agenda as modified in the light of the request from SOM that the meeting consider responses to recent oil price volatility.

Report on Energy for Sustainable Communities Programme

Dr Larry Hill reported on the Energy for Sustainable Communities Programme. He explained that there used to be two sub-groups of the EGEEC, namely the Sub-Group on Energy for Sustainable Communities and the Sub-Group on Inter-Utility Demand Side Management. When APEC decided to move to flatten its structure with a minimum of sub-groups, the work on energy for sustainable communities was moved to become a programme of the expert group. Dr Hill gave an outline of the history of the programme and its activities. Its major implementing strategy is community outreach, which to date involves seven member economies. The programme is self-funded, but as an APEC activity specific approval is required for each year's activities.

The expert group gave general approval to the work of the programme on Energy for Sustainable Activities, and expressed interest in seeing the detailed proposal for year 2002, which will be presented to EGEEC 18.

Mr Takeshi Sekiyama gave a presentation on Energy Conservation Promotion in the Residential/Commercial Sector in Japan. He explained that energy use has increased in Japan over the past twenty years, especially in the residential, commercial and transport sectors. In response, Japan has developed several energy conservation promotion campaigns. These include a trial of an energy fee indicator — “Navi” — that compares present, target and previous energy use and costs. This trial resulted in an average of 20% reduction of energy in the 800 homes involved. Another campaign is the establishment of “Energy Conservation Republics”, typically based at elementary schools with expansion to other areas.

Discussion on Revised Scope, Definition and Tangible Outcomes of Proposed APEC Energy Industry Project on Sustainable Energy Services

Dr Hill gave a resumé of the history of the former Sub-Group on Inter-Utility DSM. As a result of APEC restructuring, and of electricity industry restructuring in several economies resulting in utilities as such disappearing, the work of this former sub-group is now included within a project proposal titled “Energy Industry Project on Sustainable Energy Service”. Dr Hill stated that meetings of the former sub-group were generally well attended, and that the sub-group activities were self-funded, i.e. they did not use APEC funding.

The recent planning meeting in Bangkok, as authorised by EWG, proposed four projects: on distributed generation; the formation of energy service companies (“ESCOs”); market transformation; and energy resource management (including emergency DSM). Japan raised the issue of development of advanced DSM based on Information Technology (IT). Dr Hill reminded the meeting that a recent project proposal on this topic did not obtain the necessary support from three economies.

The expert group identified the options for this stream of activity as being contained within either a single project proposal, or within four separate (but complementary and compatible) proposals. The former option would risk appearing too diverse and unfocussed to meet APEC criteria for approval, while the latter option would risk having some but not all of the proposals approved, in which case interest in the activity would reduce. It was decided that the project proposer would consider the recently amended APEC guidelines for projects, and also the availability of support from other economies for the different options, and make a proposal or proposals accordingly, to be considered by EGEEC 18.

Update on EWG 03/2000 Workshop on Financing and Implementing Energy Efficiency Programmes

Dr Hill provided an overview of the EWG 03/2000 Workshop on Financing and Implementing Energy Efficiency.

He reviewed the recently held Workshop on Financing and Implementing Energy Efficiency Programs in a Restructured Electric Industry, that took place in Bangkok, Thailand on 25th to 27th September 2000. Restructuring of electricity industries in APEC member economies will change the way in which energy efficiency programs are delivered in the future, moving from utility-run, financed and implemented programs to ones relying on NGOs, ESCOs and government agencies. The participants at the workshop recommended to:

- foster the creation and operation of ESCOs
- foster market transformation programmes
- create a website on best practices and lessons learned
- coordinate research and development among APEC economies.

Chinese Taipei expressed its concern at the difficulties that it may face in future in achieving energy efficiency gains within the context of a restructured electricity market.

Overview of recent EGEE&C activities, and introduction to request from SOM regarding increased energy efficiency activity in response to the world oil price situation.

The meeting Chair reviewed the recent activities of the expert group, as reported to EWG. In response to a question, it was stated that the Workshop on Distributed Generation (Project EWG 06/2001) would probably take place in conjunction with a meeting of EGNRET or with EGEEC 19 or EGEEC 20, i.e. possibly in September 2001 or March 2002.

Report and Discussion on EWG 06/2000 Green Buildings - Investing in our Future - a Showcase Workshop

The feedback from the workshop was that it contained useful information that was communicated effectively. It also highlighted the need for coordination between economies and the need to include aspects other than energy efficiency. However, the effectiveness of the workshop will depend on the dissemination of information from the workshop, which will primarily be by distribution of the VCD recording of the entire workshop. Information from the workshop will also probably be placed on the EWG Secretariat website. The project requires a small group for evaluation. It was decided that this will comprise Australia as project overseer, Canada, New Zealand and Chinese Taipei.

In this area, there are major low-or-no cost opportunities, but a major market and expectation transformation will be necessary. The record of the workshop will include recommendations arising out of the panel discussion at the end of the workshop.

The expert group noted that of the building stock in ten years time, 85% exist at present. Therefore there is a need to include existing buildings in measures to improve the "greenness" of buildings.

Update on APERC's Energy Efficiency Indicators Project

Mr Ivan Jaques of APERC gave an update on their Energy Efficiency Indicators Project. In its first phase, finished in March 2000, the study presented descriptive indicators for the whole economy and for three energy-intensive industrial sectors, namely iron and steel, cement, and pulp and paper.

For the second phase of the study, which will be finished by March 2001, the scope has been extended to all major energy consuming sectors. The study now aims at analysing the underlying factors that help explain energy consumption trends of APEC economies.

Mr Jaques mentioned that this study is closely related to a joint World Energy Council (WEC) project with ADEME (France), the results of which will be presented at the Buenos Aires WEC 2001 Congress.

He continued his presentation explaining the type of data that have been collected and showed some preliminary aggregate energy intensity trends. Finally, he showed the decomposition of China's total and manufacturing energy consumption, as an example of the analysis being done for all sectors.

Report on APEC EWG 02/99 Energy Efficiency Database Construction

Mr Kazuki Tanabe of Japan reported on the progress of the Energy Efficiency Database Construction project (EWG 02/99). He outlined the project process, which features a survey of industries in member economies. A number of economies have for various reasons not responded to the survey so far.

The project will finish in November 2000. However, for the information to retain usefulness, it will be necessary to revise and update the data a further two times next year on a voluntary basis. Japan stressed the importance of continuing cooperation from expert group members and the relevant agencies and associations in their economies in this regard. This sentiment was reinforced by the expert group.

It was explained that this project is more effective if considered in conjunction with the APERC study on energy efficiency indicators.

The project requires a small group for project evaluation. It was decided that this will comprise Japan as project overseer, Korea, New Zealand and Chinese Taipei.

Report on recent and future projects

Eur Ing Cogan reported that the symposium on domestic refrigerating appliances, project EWG 4/99T, held in Wellington immediately after EGEEC 16, resulted in definite conclusions. While in technical terms the conclusions were a bit less than hoped for, they will be useful in planning future work and activities in the area of energy standards. In terms of achieving the project goals, and organisationally, the project was successful. Since the symposium event, the proceedings have been published and the evaluation completed.

Eur Ing Cogan also reported that proposals for the Study on Algorithm Development for Energy Performance Testing — EWG 03/2000T — had been received and were being evaluated by the project steering group.

With respect to future projects, EWG 01/2001T — Energy Standards Information Development — had been approved by BMC after modification. They had stressed that this is a limited term project. The expert group has to work on the assumption that alternative means of funding and carrying out this function would need to be found if the activity is to continue in future years. It was pointed out that, in line with the recommendations of the former Steering Group on Energy Standards, individual member economies would need to participate more actively in the work of international standards organisations on energy related standards.

It was reported to the expert group that project proposal EWG 06/2001T — Development of Algorithm Criteria — has been approved by BMC.

Proposals for Year 2002 projects

Ms Katherine Harman, on behalf of the EWG Secretariat, reminded the expert group that new requirements for project proposals and project management had been produced by APEC and that all future project work must conform to these new requirements. Of particular note is the increased emphasis on gender considerations. Details were sent out by the EWG Secretariat by email on 21st September. The Guidebook has been updated and is available from the APEC website — www.apecsec.org.sg —.

Members of the expert group then gave preliminary notice of project proposals for Year 2002 funding. In outline, these were:

- The self-funded activities under the Energy for Sustainable Communities programme (USA);
- One or four self-funded projects as discussed previously connected with energy industry sustainable energy services (USA);
- A symposium type event looking at long term development of energy standards and their coordinated application within restructured electricity markets (New Zealand and Chinese Taipei);
- Coordination of “Pledge and Review” activities (Australia);

Additional proposals may be forthcoming.

In relation to the issue of standby power, it was noted that some cooperation with the IEA work via economies with common membership of OECD and APEC could well be appropriate. In this regard, it was noted that the 2001 IEA meeting on Standby Power is being held on 7th and 8th February in Tokyo.

Resumé of first day of meeting

The Meeting Chair then gave a resumé of the day’s proceedings. The meeting was adjourned until the following day.

Friday, 20th October

Proposals regarding SOM requirements in response to oil price volatility

The expert group considered the request from SOM to the 20th meeting of the EWG and considered what assistance it could offer in response to the recent oil price volatility, commencing with outlines of the effect of oil price rises on individual economies. The expert group noted that increasing oil stockpiles is not a long-term solution, and has other drawbacks as well. Other measures may also have adverse effects; Canada gave the example of price restraints removing incentives for energy efficiency, resulting in a need for increased expenditure on promotion of energy efficiency measures. Therefore energy efficiency measures assume prime importance.

Mr Jaques informed that APERC finished a study in March 2000 related to emergency oil stocks and that they had received suggestions to undertake a new study on oil prices. Japan informed the expert group that they are involved with a G8 study of renewable energy in developing economies. This study is due to be finished next March. Information from the study will be freely available and published on a website.

After discussion, the expert group agreed that it would suggest the following measures to EWG as part of their response to the request from SOM:

1. The Expert Group on Energy Efficiency and Conservation offers to help set up and participate in Energy Efficiency Advisory Teams, similar to the existing Implementation Facilitation Advisory Teams (IFATs), that would advise individual member economies on energy efficiency measures. The expert group includes, or has access to, experts with many years experience of the design and implementation of energy efficiency measures, and with

knowledge of energy efficiency initiatives that have been tried and carried out in various economies.

It is envisaged that an Energy Efficiency Advisory Team would typically include experts on energy data, new and renewable energy, and (in appropriate cases) on transport as well as experts on energy efficiency itself. Advice to host economies would be on two levels, namely a formal report supplemented by unrecorded, unofficial advice. Teams would typically proffer a range of options and measures, including some that may be considered overly stringent but effective, depending on the needs of the individual economy.

It would be preferable for membership of Energy Efficiency Advisory Teams visiting different economies to have some commonality of membership, thus helping to achieve a degree of coordination of measures where appropriate.

A possible arrangement for funding the teams would be that the host economy covers all local costs, while a team member's economy would cover salary costs. The cost of transport to the host economy could perhaps be met out of APEC project funds.

2. The Expert Group suggests that certain present initiatives and projects ought to be accelerated or reinforced. These include:
 - Fostering the formation, operation and use of Energy Service Companies (ESCOs);
 - Improving information about and coordination of market transformation and “best practice” programmes;
 - Strengthening energy standards development work, including possible coordination on the introduction of minimum performance requirements for selected appliances and items of equipment;
 - Expanding the “Pledge and Review” initiative, with EGEEC taking a greater role in advising EWG on the measures being taken, and with greater emphasis on indicators to measure the success of initiatives and enable comparison between economies.

If requested, the EGEEC would submit detailed proposals for these measures out of session, and include figures for any additional year 2001 costs.

Open Forum — Member Economies' Green Building Programmes and Initiatives

Australia

In Australia, green building initiatives occur at all levels of government. Specifically in terms of energy use, at the federal level Commercial Energy Building Standards are being prepared, and government departments are reporting on their energy use in operations (including for the buildings that they occupy). Also, Australia has a National Housing Energy Rating Scheme (NatHERS) that is based on a 5-star rating system and that has been adopted by state and territory governments on a voluntary basis (e.g. the Australian Capital Territory has adopted this as a mandatory measure, for both new and existing buildings).

At the state and territory level, initiatives vary. In New South Wales, for instance, there is a Commercial Building Greenhouse Rating Scheme and an Energy Smart

Programme — details are contained on website www.seda.nsw.gov.au. Local governments also have a range of broad environmental initiatives that are being implemented. Other initiatives are being undertaken by various peak professional organisations, including task forces on sustainability. The Olympic Games venues demonstrated how ecologically sustainable design can be achieved.

Canada

Canada presented its strategy for improving the energy efficiency of new buildings which consists of three components: the model national energy code for buildings, the Commercial Building Incentive Program (CBIP), and the C-2000 Program. CBIP is a relatively new program aimed at changing design practices in the mass market. Canada noted that this program has exceeded expectations in terms of building performance and cost — many buildings were 35% to 45% above code levels (the program specifies a minimum 25% above code performance) and often there were no incremental capital costs. Nevertheless, it was still a major challenge to shift the market; the program spent, last year, only 30% of the funds available for incentives.

Korea

There is no direct government supported program for green buildings in Korea. Instead the Government supports ESCOs and mandated the installation of the certified energy efficient equipment in public buildings.

The Government has designed a green building initiative through the study on a promotion of green buildings implemented by the Korea Institute of Energy Research.

The Green Building Council of Korea has recently launched a pilot Green Building Labelling Program.

New Zealand

New Zealand building energy efficiency progress works within a cycle of improving basic requirements for buildings, and then improving what is recognised as “good design”. The New Zealand building regulations for energy efficiency have recently been upgraded, and there will now be increased focus on improving the best designs. The long-term aim is to have zero energy use for space conditioning in new homes by 2015, with possibly a longer term but similar goal for larger buildings.

Present measures encouraging green buildings include the initiative by Waitakere City Council, and the Canterbury Home Energy Efficiency Rating Scheme, which is similar to a simplified version of the Australian rating schemes.

Chinese Taipei

The current energy situations for residential, commercial and public buildings is:

- electricity usage up by 4% in the last decade
- commercial buildings energy use up by 4.7% per annum on average
- between a quarter and a third of overall electricity consumption is attributable to buildings.

Regulatory and voluntary actions include:

- Energy Star program for office equipment started from July 2000 through a MOU with the US EPA;

- Building envelope performance is an explicit item of evaluation for the green building evaluation system
- Envelope thermal performance is checked before a construction permit is issued, and PACS (performance of air conditioning system) is being considered for imminent introduction; the envelope check has proved less successful than anticipated.
- Various MEPS and incentive programs exist for appliances and equipment used in buildings, and more are being prepared.

Research to improve the performance of existing buildings will be conducted in the next 5 to 10 years. The scope includes taking stock of existing buildings, document technologies applicable to performance improvement and also finding new technologies for improvement.

United States

The United States discussed “green building” and energy efficiency initiatives at the national, state and local levels. The Federal Energy Management Program (FEMP) and “Energy Star Houses” are two prominent national energy efficiency initiatives. Many states and localities have adopted FEMP in their jurisdictions. Other green building initiatives include:

- The Green Building Challenge 2000;
- The Commercial High Performance Buildings Project; and
- The U.S. Green Building Council.

New Labeling System in Japan

Japan gave a presentation on the New Labeling System in Japan, which was introduced as part of their response to Kyoto greenhouse gas emission reduction requirements. It is especially for home appliances (television, air-conditioner, fluorescent luminaire, refrigerator and freezer). The scheme is coordinated with the top-runner programme. Labels indicated comparative performance, with a different colour used for those appliances performing better than the Top-Runner level. As a voluntary measure based on Japan Industrial Standards (JIS), the labels will appear in catalogues as distinct from on the appliance itself, and the labels indicate the year to which they apply. Making this labeling compulsory by law is an option to be examined in the future if required.

Election of Chair for EGEE&C

The expert group unanimously agreed that Frank Pool of New Zealand be requested to continue as Chair of the Expert Group on Energy Efficiency and Conservation for a second term.

Next meeting

Arrangements for EGEEC 18 are to be advised to members by the Chair. The preferred dates were either the first week of March or early April.

Consideration and acceptance of minutes

The minutes were drafted and agreed upon.

Close of meeting

The meeting closed for formal business at 5:40.

Delegates and Observers

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